



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,295	08/07/2000	Alfons Nichtl	100564-00025	4590

6449 7590 12/12/2003

ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
1425 K STREET, N.W.  
SUITE 800  
WASHINGTON, DC 20005

EXAMINER

DO, PENSEE T

ART UNIT	PAPER NUMBER
----------	--------------

1641

DATE MAILED: 12/12/2003

25

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/633,295

Applicant(s)

NICHTL, ALFONS

Examiner

Pensee T. Do

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24 and 26-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24, 26-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 1641

### **DETAILED ACTION**

#### **Request for Reconsideration Entered**

The request for reconsideration filed on October 2, 2003 has been acknowledged and entered.

#### **Maintained Rejection(s)**

#### ***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 26-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liberti et al. (US 5,597,531) further in view of Nichtl et al. (US 5,972,720).

Liberti teaches a coating process comprising coating a wide range of materials (including dextran, proteins, synthetic polypeptides, polymers, detergents, polyethylene glycol and combinations thereof) onto colloidal magnetically responsive particles to obtain stable microagglomerants. The process comprises the following steps:

(a) forming a liquid mixture of a particulate magnetic starting material and a coating material;

(b) treating the mixture to subdivide the particles of the magnetic starting material;

(c ) permitting the coating material to form a coating on the subdivided particles of the magnetic starting material to form stable, resuspendable coated particles;

(d) recovering the resuspended coated magnetic particles from the liquid mixture. (See col. 4, lines 45-52; claim 1).

Liberti also fails to teach an additional stabilizer such as an inert protein or/and polyethylene glycol after loading the colloidal particles and colloidal particles selected from the group consisting of gold, silver, copper, platinum, palladium and mixture thereof. Liberti also fails to teach the concentration of detergent to be 0.001 to 1mM.

Nichtl teaches that after the colloidal particles have been loaded with the respective desired biomolecule, it is necessary to stabilize the conjugates. This stabilization minimizes an aggregation of the particles and to saturate the remaining free surfaces accessible to adsorption. In the state of the art inert proteins, e.g. bovine serum albumin, detergents, and polymers such as polyethylene glycol, polyvinylpyrrolidone, polyvinyl alcohol, polyvinyl sulfate, dextran and gelatin are used as stabilizers. Nichtl also teaches a new stabilizer, thiol-substituted polyethylene glycol, which is added to the conjugate of gold particles or metallic particles such as particles of metals, metal oxides, metal hydroxides, metal compounds or particles coated with metals or metal

Art Unit: 1641

compounds. The metal particles are selected from the group consisting of gold, silver, copper, platinum, palladium, and mixture thereof. (see col. 1, lines 47-61; col. 2, lines 25-28; col. 2, line 53-col. 3, line 7).

It would have been obvious to one of ordinary skills in the art to add the an inert protein selected among those taught in Nichtl to the conjugate formed by the method of Liberti since Liberti and Nichtl both teach improving the long-term stability of the conjugates and lowering the aggregation or agglomeration tendency in solution. (see Nichtl col. 2, lines 25-36). Regarding the concentration of the detergent, one of ordinary skill in the art would find it obvious to arrive at an optimum concentration of detergent without the affecting the function of the biomolecules on the particles through routine experimentation.

### ***Response to Arguments***

The arguments filed on October 2, 2003 have been fully considered but not found persuasive.

Applicant argues that the present invention does not use the same coating process as in Liberti et al. in view of Nichtl to make coated particles. The present invention uses colloidal particles which are not agglomerated. Therefore they do not need to be separated or disrupted. In contrast, the magnetic particles in Liberti et al. are present as agglomerates which first must be disrupted to form a suspension by sonication. Applicants also argue that the particles in Liberti and Nichtl are incompatible and would not be combined by the skilled person in the art.

Since the present claims contain an opening language such as comprising, they do not exclude particles which are agglomerates. Furthermore, whether the particles are clumped together or separated, biomolecules can still bind to them. Thus, the purpose is achieved. Moreover, as interpreted by the Applicant, Liberti teaches that the particles are deagglomerated and during this process, a detergent is added. Thus, before the agglomerates are completely separated to be colloidal particles, a detergent is added. Thus, it meets the requirement of the present invention which is to add a detergent before loading colloidal particles. Since Liberti treats the agglomerated magnetic particles to be colloidal, and Nichtl teaches colloidal particles, these two references would be combined by one skilled in the art.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pensee T. Do whose telephone number is 703-308-4398. The examiner can normally be reached on Monday-Friday, 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 703-305-3399. The fax phone number for the organization where this application or proceeding is assigned is 703-308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Pensee T. Do  
Patent Examiner  
December 5, 2003

  
CHRISTOPHER L. CHIN  
PRIMARY EXAMINER  
GROUP 1800/641